

14.3.2011

PREZENČNÍ LISTINA

Recent Developments in long-wavelength VCSELs for telecommunications and sensing applications

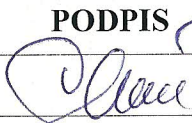
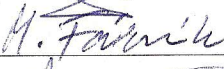

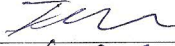

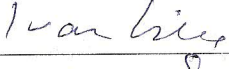
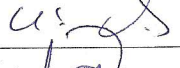
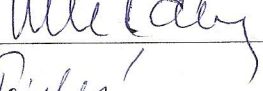
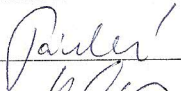
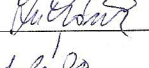
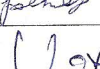
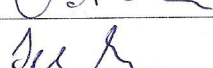
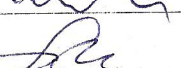

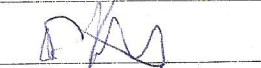
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Long wavelength (1200-2000nm) vertical cavity surface emitting lasers (VCSELs) are the diode laser of choice for many applications requiring low power-consumption, single frequency emission spectrum, broad wavelength tunability, and symmetric beam shapes. These include optical fiber communication, spectroscopy and sensing. The major difficulty in the technological development of these lasers has been the incompatibility of the optimal laser gain material (InP-based) and mirror material (GaAs-based) in terms of epitaxial growth. This talk will review progress in the use of wafer fusion in fabricating such long wavelength VCSELs. The lasing characteristics of these devices, relevant to their applications in gas sensing, will be presented and discussed.

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